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FILE 'HOME' ENTERED AT 13:15:28 ON 11 AUG 2003

=> file .jacob
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

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=> bionsensor(5A)carbohydrate
L1 0 FILE CAPLUS
L2 0 FILE BIOSIS
L3 0 FILE MEDLINE
L4 0 FILE EMBASE
L5 0 FILE USPATFULL

TOTAL FOR ALL FILES
L6 0 BIONSENSOR(5A) CARBOHYDRATE

=> biosensor(5A)carbohydrate
L7 78 FILE CAPLUS
L8 6 FILE BIOSIS
L9 4 FILE MEDLINE
L10 8 FILE EMBASE
L11 13 FILE USPATFULL

TOTAL FOR ALL FILES
L12 109 BIOSENSOR(5A) CARBOHYDRATE

=> l12 and surface
L13 21 FILE CAPLUS
L14 2 FILE BIOSIS
L15 3 FILE MEDLINE
L16 4 FILE EMBASE
L17 13 FILE USPATFULL

TOTAL FOR ALL FILES
L18 43 L12 AND SURFACE

=> l18 and (carbohydrate derivative)
L19 0 FILE CAPLUS
L20 0 FILE BIOSIS

L21 0 FILE MEDLINE
L22 0 FILE EMBASE
L23 2 FILE USPATFULL

TOTAL FOR ALL FILES
L24 2 L18 AND (CARBOHYDRATE DERIVATIVE)

=> d l24 ibib abs total

L24 ANSWER 1 OF 2 USPATFULL on STN
ACCESSION NUMBER: 2001:144135 USPATFULL
TITLE: Immobilized **carbohydrate biosensor**
INVENTOR(S): Nilsson, Kurt, Lund, Sweden
Mandenius, Carl-Fredrik, Huddinge, Sweden

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001017270	A1	20010830
APPLICATION INFO.:	US 2001-766659	A1	20010123 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-356229, filed on 19 Dec 1994, GRANTED, Pat. No. US 6231733 Continuation of Ser. No. WO 1994-SE343, filed on 18 Apr 1994, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	SE 1993-1270	19930417

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SMITH GAMBRELL & RUSSELL, L.L.P., Suite 800, 1850 M Street, N.W., Washington, DC, 20036
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
LINE COUNT: 344
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention refers to a **biosensor** in which an immobolized **carbohydrate** or a derivative thereof is used to generate a detectable signal when a protein, a virus or a cell is bound to the carbohydrate **surface**. The sensor is an optical sensor, a piezoelectric sensor, an electrochemical electrode or a thermistor. A method of binding carbohydrates to a gold **surface** is also described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 2 OF 2 USPATFULL on STN
ACCESSION NUMBER: 2001:70970 USPATFULL
TITLE: Immobilized **carbohydrate biosensor**
INVENTOR(S): Nilsson, Kurt, Andjaktsv. 6, S-226 53, Lund, Sweden
Mandenius, Carl-Fredrik, Stromkarlsv. 36, S-141 42, Huddinge, Sweden

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6231733	B1	20010515
APPLICATION INFO.:	US 1994-356229		19941219 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 1994-SE343, filed on 18 Apr 1994, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	SE 1993-1270	19930417

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Chin, Christopher L.

ASSISTANT EXAMINER: Nguyen, Bao-Thuy L.
LEGAL REPRESENTATIVE: Smith, Gambrell & Russell, L.L.P.
NUMBER OF CLAIMS: 58
EXEMPLARY CLAIM: 1
LINE COUNT: 496
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A **biosensor** in which a **carbohydrate** or a derivative of a carbohydrate is used to generate a detectable signal by way of the specific binding to a protein, a virus or a cell.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> file .chemistry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	19.64	19.85

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=> biosensor(8A)carbohydrate

L25	102	FILE CAPLUS
L26	11	FILE BIOTECHNO
L27	2	FILE COMPENDEX
L28	8	FILE ANABSTR
L29	0	FILE CERAB
L30	0	FILE METADEX
L31	27	FILE USPATFULL

TOTAL FOR ALL FILES
L32 150 BIOSENSOR(8A) CARBOHYDRATE

=> l32 and surface and derivative

L33	7	FILE CAPLUS
L34	2	FILE BIOTECHNO
L35	0	FILE COMPENDEX
L36	0	FILE ANABSTR
L37	0	FILE CERAB
L38	0	FILE METADEX
L39	16	FILE USPATFULL

TOTAL FOR ALL FILES
L40 25 L32 AND SURFACE AND DERIVATIVE

=> l40 and py<1995
L41 1 FILE CAPLUS
L42 0 FILE BIOTECHNO
L43 0 FILE COMPENDEX
L44 0 FILE ANABSTR
L45 0 FILE CERAB
L46 0 FILE METADEX
L47 0 FILE USPATFULL

TOTAL FOR ALL FILES
L48 1 L40 AND PY<1995

=> d l41 ibib abs total

L41 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:235036 CAPLUS
DOCUMENT NUMBER: 122:4932
TITLE: Immobilized **carbohydrate biosensor** for detection of proteins, viruses, or cells
INVENTOR(S): Nilsson, Kurt; Mandenius, Carl-Fredrik
PATENT ASSIGNEE(S): Swed.
SOURCE: PCT Int. Appl., 14 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9424561	A1	19941027	WO 1994-SE343	19940418 <--
W: CA, CZ, JP, RU, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 648333	A1	19950419	EP 1994-914654	19940418
EP 648333	B1	20020109		
R: DE, ES, FR, GB, IT, SE				
US 6231733	B1	20010515	US 1994-356229	19941219
US 2001017270	A1	20010830	US 2001-766659	20010123

PRIORITY APPLN. INFO.:
SE 1993-1270 A 19930419
WO 1994-SE343 W 19940418
US 1994-356229 A1 19941219

AB A **biosensor** is disclosed in which an immobilized **carbohydrate** or a **deriv.** thereof is used to generate a detectable signal when a protein, virus, or cell is bound to the carbohydrate **surface**. The sensor is an optical sensor, a piezoelec. sensor, an electrochem. electrode, or a thermistor. A method of binding carbohydrates to a gold **surface** is also described.

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	18.88	38.73

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL

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                                                        ENTRY    SESSION
CA SUBSCRIBER PRICE                                     -0.65      -0.65

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=> biosensor(10A)carbohydrate
L49           0 FILE AGRICOLA
L50          11 FILE BIOTECHNO
L51           1 FILE CONFSCI
L52           0 FILE HEALSAFE
L53           0 FILE IMSDRUGCONF
L54           5 FILE LIFESCI
L55           0 FILE MEDICONF
L56           6 FILE PASCAL

TOTAL FOR ALL FILES
L57          23 BIOSENSOR(10A) CARBOHYDRATE

=> l57 and derivative
L58           0 FILE AGRICOLA
L59           5 FILE BIOTECHNO
L60           0 FILE CONFSCI
L61           0 FILE HEALSAFE
L62           0 FILE IMSDRUGCONF
L63           0 FILE LIFESCI
L64           0 FILE MEDICONF
L65           1 FILE PASCAL

TOTAL FOR ALL FILES
L66           6 L57 AND DERIVATIVE

=> dup rem
ENTER L# LIST OR (END):l66
DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF, MEDICONF'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L66
L67           5 DUP REM L66 (1 DUPLICATE REMOVED)
```

=> d l67 ibib abs total

L67 ANSWER 1 OF 5 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2002:35370520 BIOTECHNO
TITLE: Synthesis of three Salmonella epitopes for **biosensor** studies of **carbohydrate** -antibody interactions
AUTHOR: Yu H.N.; Ling C.-C.; Bundle D.R.
CORPORATE SOURCE: D.R. Bundle, Department of Chemistry, University of Alberta, Edmonton, Alta. T6G 2G2, Canada. E-mail: dave.bundle@ualberta.ca
SOURCE: Canadian Journal of Chemistry, (2002), 80/8 (1131-1140), 33 reference(s) CODEN: CJCHAG ISSN: 0008-4042
DOCUMENT TYPE: Journal; Article
COUNTRY: Canada
LANGUAGE: English
SUMMARY LANGUAGE: English; French
AN 2002:35370520 BIOTECHNO
AB Disaccharides 1-3 corresponding to the antigenic determinants of Salmonella serotypes A, B, and D.sub.1 were synthesized in a form suited for use in biosensors. The disaccharide determinants each contain a unique 3,6-dideoxyhexose, namely abequose (3,6-dideoxy-D-xylo-hexose), paratose (3,6-dideoxy-D-ribohexose), and tyvelose (3,6-dideoxy-D-arabino-hexose), are .alpha.-linked to the 3-position of D-mannopyranose. The disaccharides were further derivatized with a linear aglycon that has a terminal amino group, and can be readily coupled to pertinent chains carrying a terminal thiol for the construction of self-assembled monolayers (SAMs). Efficient routes that employed a single 3,6-dideoxygenation step were developed for the synthesis of paratoside 15 and tyveloside 22.

L67 ANSWER 2 OF 5 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 2001:32904539 BIOTECHNO
TITLE: Immobilisation on polystyrene of diazirine **derivatives** of mono- and disaccharides: Biological activities of modified surfaces
AUTHOR: Chevolot Y.; Martins J.; Milosevic N.; Leonard D.; Zeng S.; Malissard M.; Berger E.G.; Maier P.; Mathieu H.J.; Crout D.H.G.; Sigrist H.
CORPORATE SOURCE: Y. Chevolot, Departement des Materiaux, LMCH, EPFL, CH-1015 Lausanne, Switzerland. E-mail: ian.chevolot@epfl.ch
SOURCE: Bioorganic and Medicinal Chemistry, (2001), 9/11 (2943-2953), 50 reference(s) CODEN: BMECEP ISSN: 0968-0896
PUBLISHER ITEM IDENT.: S0968089601001729
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2001:32904539 BIOTECHNO
AB The potential of surface glycoengineering for biomaterials and **biosensors** originates from the importance of **carbohydrate** protein interactions in biological systems. The strategy employed here utilises carbene generated by illumination of diazirine to achieve covalent bonding of carbohydrates. Here, we describe the synthesis of an aryl diazirine containing a disaccharide (lac-tose). Surface analysis techniques [X-ray photoelectron spectroscopy (XPS) and time of flight secondary ion mass spectroscopy (ToF-SIMS)] demonstrate its successful surface immobilisation on polystyrene (PS). Results are compared to those previously obtained with an aryl diazirine containing a monosaccharide (galactose). The biological activity of galactose- or lactose-modified PS

samples is studied using rat hepatocytes, Allo A lectin and solid-phase semi-synthesis with .alpha.-2,6-sialyltransferase. Allo A shows some binding to galactose-modified PS but none to lactose-modified surfaces. Similar results are obtained with rat hepatocytes. In contrast, sialylation of lactose-modified PS is achieved but not with galactose-modified surfaces. The different responses indicate that the biological activity depends not only on the carbohydrate per se but also on the structure and length of the spacer. Copyright .COPYRGT. 2001 Elsevier Science Ltd.

L67 ANSWER 3 OF 5 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2001:32938146 BIOTECHNO
TITLE: Immobilisation on polystyrene of diazirine **derivatives** of mono- and disaccharides: Biological activities of modified surfaces
AUTHOR: Chevolot Y.; Martins J.; Milosevic N.; Leonard D.; Zeng S.; Malissard M.; Berger E.G.; Maier P.; Mathieu H.J.; Crout D.H.G.; Sigrist H.
CORPORATE SOURCE: Y. Chevolot, Departement des Materiaux, LMCH, EPFL, CH-1015 Lausanne-EPFL, Switzerland.
E-mail: ian.chevolot@epfl.ch
SOURCE: Bioorganic and Medicinal Chemistry Letters, (05 NOV 2001), 11/21 (2943-2953), 50 reference(s)
CODEN: BMCLE8 ISSN: 0960-894X
PUBLISHER ITEM IDENT.: S0968089601001729
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2001:32938146 BIOTECHNO
AB The potential of surface glycoengineering for biomaterials and **biosensors** originates from the importance of **carbohydrate** -protein interactions in biological systems. The strategy employed here utilises carbene generated by illumination of diazirine to achieve covalent bonding of carbohydrates. Here, we describe the synthesis of an aryl diazirine containing a disaccharide (lactose). Surface analysis techniques [X-ray photoelectron spectroscopy (XPS) and time of flight secondary ion mass spectroscopy (ToF-SIMS)] demonstrate its successful surface immobilisation on polystyrene (PS). Results are compared to those previously obtained with an aryl diazirine containing a monosaccharide (galactose). The biological activity of galactose- or lactose-modified PS samples is studied using rat hepatocytes, Allo A lectin and solid-phase semi-synthesis with .alpha.-2,6-sialyltransferase. Allo A shows some binding to galactose-modified PS but none to lactose-modified surfaces. Similar results are obtained with rat hepatocytes. In contrast, sialylation of lactose-modified PS is achieved but not with galactose-modified surfaces. The different responses indicate that the biological activity depends not only on the carbohydrate per se but also on the structure and length of the spacer. .COPYRGT. 2001 Elsevier Science Ltd. All rights reserved.

L67 ANSWER 4 OF 5 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2001:32522792 BIOTECHNO
TITLE: Recombinant Microdochium nivale carbohydrate oxidase and its application in an amperometric glucose sensor
AUTHOR: Kulys J.; Tetianec L.; Schneider P.
CORPORATE SOURCE: J. Kulys, Institute of Biochemistry, Mokslininku 12, 2600 Vilnius, Lithuania.
E-mail: jkulys@bchi.lt
SOURCE: Biosensors and Bioelectronics, (2001), 16/4-5 (319-324), 15 reference(s)
CODEN: BBIOE4 ISSN: 0956-5663
PUBLISHER ITEM IDENT.: S0956566301001282
DOCUMENT TYPE: Journal; Article

COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2001:32522792 BIOTECHNO
AB **Biosensors** containing recombinant **carbohydrate** oxidase from Microdochium nivale (rMnO) were developed by means of either chemically modified carbon paste or graphite electrode. 1-(N,N-dimethylamine)-4-(4-morpholine)benzene (AMB) and 1,1'-dimethylferrocene (DMFc) have been used as mediators. The biosensors showed a linear calibration graph up to 18 mM of glucose when operated at 0.04-0.36 V versus a saturated calomel electrode. Almost no change was detected in the sensitivity of the biosensors at pH 7.2-8.1. The biosensors responded to other aldoses in the D-configuration, however, maximal sensitivity of the biosensor was towards D-glucose. The biosensor did not response to polyhydroxylic compounds such as D-mannitol, D-sorbitol and inositol. The advantages of the biosensors based on rMnO in comparison to Aspergillus niger glucose oxidase is a wider linear range, low sensitivity to oxygen and (in some cases) broad specificity.

L67 ANSWER 5 OF 5 BIOTECHNO
ACCESSION NUMBER: 2000:30738753 BIOTECHNO
TITLE: The development of an improved glucose **biosensor** using recombinant **carbohydrate** oxidase from Microdochium nivale
AUTHOR: Kulys J.; Tetianec L.; Schneider P.
CORPORATE SOURCE: J. Kulys, Institute of Biochemistry, Mokslininku 12, 2600 Vilnius, Lithuania.
E-mail: jkulys@bchi.lt
SOURCE: Analyst, (2000), 125/9 (1587-1590), 15 reference(s)
CODEN: ANALAO ISSN: 0003-2654
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30738753 BIOTECHNO
AB **Biosensors** containing recombinant **carbohydrate** oxidase from Microdochium nivale (rMnO) were developed using either a chemically modified carbon paste or a graphite electrode. 1-(N,N-dimethylamine)-4-(4-morpholine)benzene (AMB) and 1,1'-dimethylferrocene (DMFc) were used as the mediators. The biosensors showed a linear calibration graph up to 0.018 mol dm.sup.-.sup.3 of glucose when operated at 0.04-0.36 V vs. SCE. Almost no change was detected in the sensitivity of the biosensors at pH 7.2-8.1. The biosensors responded to a range of D-aldoses, but maximal sensitivity of the biosensor was with D-glucose. The biosensors gave no response to polyhydroxylic compounds such as D-mannitol, D-sorbitol and inositol. The advantage of the biosensor in comparison to the biosensor based on Aspergillus niger glucose oxidase is a wide linear range, low sensitivity to oxygen and (in some cases) broad specificity.